



## THE ROLE OF MOBILE APPLICATIONS IN THE EDUCATION SYSTEM

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**Annotation.** In the age of high technology, distance learning has already become something commonplace, since the modern period of development in the field of technology provides simple and accessible ways to obtain information. The exchange of information is now an integral part of everyone's life. And devices such as phones, tablet computers, smartphones are becoming digital life. As technological progress progresses, electronic devices receive more and more processors that allow them to perform more complex tasks and process a larger flow of information. Learning disciplines through mobile applications is a relatively new way that is gaining popularity. Almost everyone between the ages of 10 and 60 has mobile devices. Therefore, mobile applications will always be in demand.

**Keywords:** mobile software, mobile application, iOS, Android, mobile development, operating system, education.

The article analyzes the sphere of mobile applications in the education system. The advantages and disadvantages, as well as the technology of e-education management, are considered. The purpose of the study is to analyze the sphere of mobile applications in the education system.

In the age of high technology, distance learning has already become something commonplace. Since the modern period of development in the field of technology provides simple and accessible ways to obtain information.

The exchange of information is currently an integral part of everyone's life. And devices such as phones, tablet computers, and smartphones are becoming the foundation of digital life. As technological progress progresses, electronic devices receive more and more processors that allow them to perform more complex tasks, as well as process a larger flow of information.

At the moment, almost everyone between the ages of 10 and 60 has mobile devices. Therefore, mobile applications are always relevant. Most of the users do not fully use their applications [1, p. 56], do not disclose the potential invested in it by the developer. This means that students are poorly aware of the possibilities provided by a smartphone and other smart add-ons. The results of many studies show that, for the most part, teenagers are familiar only with the gaming side of computer life. There are no smart add-ons for obtaining additional knowledge in the field of educational motivation.

Studying disciplines through mobile applications is a comparatively new way that is gaining popularity. In connection with the above, it is not logical to use a mobile application as an auxiliary element in the educational system. To begin with, let's explain the concept itself

"mobile application". A mobile application is a developed software designed to function on smartphones, tablet computers and other mobile devices [1, p. 154]. The basic part of mobile applications is provided and pre-installed on the device itself or can be downloaded from online application stores such as AppStore, BlackBerryAppWorld, GooglePlay, 1mobile market, windows-phonestore, Yandex.store and others, for free or for a fee [2].

The original purpose of such software was to check e-mail quickly and conveniently, but significant demand has led to an increase in appointments in various fields. Students themselves increasingly prefer mobile technologies and use them regularly in their personal lives [1, p. 677]. Therefore, it is not surprising that it will not be difficult for modern young people to use mobile devices for learning, and not only for their specific needs. Quite a long time ago, there was a tendency for students to independently use mobile devices during their studies as:

- communicator – information exchange between each other;
- camera – photographing text, etc.;
- voice recorder – recording the voice of the lecturer giving a lecture;
- mobile browser – access to websites;
- audio player for listening to lectures with audio accompaniment;
- stopwatch when performing experiments;
- tools for translating foreign texts.

One of the advantages of using mobile technologies during the learning process is that students gain access to the control of the information they receive. And also the freedom of choice among the huge amount of available knowledge opens up unlimited learning opportunities for the student, which gives him freedom and independence [1, p. 733]. In contrast to the traditional form of presentation of educational materials and assignments, mobile learning uses innovative technologies that help to make changes in the presentation process. Modern services such as social networks, cloud storage, media hosting are used to deliver certain types of information, and recently some teachers have begun to use social networks, posting useful information there. In order to compensate for the educational needs of a modern person, it becomes inevitable to search for new and appropriate ways of communicating information.

But it will only be possible then, when all teachers will fully own and be active users of information and communication technologies (ICT). The evolution of mobile apps has led to radical changes. For the successful implementation of modernised learning systems, there is a need for technologies that will allow an arbitrary number of users to work with them, providing a good learning environment. It is worth noting that there are both advantages and disadvantages in the introduction of mobile learning into the educational process. This type of training at its stage of formation becomes real in successful implementation. UNESCO scientists highlight a number of advantages of mobile learning [2].

- Mobility. Modern smart gadgets make it possible to organize and optimize the learning process, regardless of place and time. There are two aspects to this kind of mobility: first, the possibility of implementing educational programs despite the location of a qualified specialist. Secondly, it is easy to access from different devices, due to the use of cloud storage systems. In case of changing the cell phone, the student will have access to all previously available information. In addition, he can easily use different devices to perform tasks of varying complexity.

- Permanent education. If compared with previous years, the use of information technology was focused on stationary devices. But at this stage of technology formation and development, continuous access to the information base is assumed. Since mobile devices are often located and belong to the same owner, they make the education process continuous: therefore, it is possible to complete tasks at any time convenient for them, and teachers can take a passive share of learning outside the classroom. Mobile applications make it possible to carry out continuous training in places where there are no conflicts and even in the zones of catastrophes, which is another manifestation of continuity.
- Personalization of training. Mobile applications provide the student with the opportunity to independently choose the content of certain courses, the level of difficulty and other content. And also move to the next level of difficulty, depending on personal preferences and acquired knowledge, independently evaluate your results and perform additional tasks to consolidate the material. In addition, a mobile phone allows each student to study the material in the form in which it is more convenient for him. That is, the creator of educational software solutions, in order to improve the quality of services provided, must adapt the same information, as well as ways to reproduce it (text, graphics, video, audio), to increase efficiency.
- Improving the quality of communication. Mobile devices make it easy to build fast and high-quality communication between the teacher and the student. Feedback from students allows teachers to track academic performance separately for a given student. There are other advantages presented in various sources [3, p. 25];
- Providing a number of dialog opportunities;
- the use of mobile devices spurs interest in learning among those students who behaved stiffly and did not show enthusiasm for the traditional presentation;
- Autonomous learning and information exchange;
- sorting information to facilitate search by specific criteria;
- practical work with various kinds of technologies - access to materials not only about the topic being studied, but also additional knowledge, the possibility of using various kinds of technologies, which gives students the opportunity to achieve the necessary level of education;
- review of materials of various formats (video and audio materials of a training nature);
- the chance to develop in step with the times, etc.

Despite the advantages, there are also certain disadvantages [3, pp. 33-34]:

- with the increase in the use of mobile applications, there is a decline in the development of communication, since contact between the student and the teacher will be minimized. Therefore, this form of training will slow down the development of such qualities as sociability, confidence, leadership, as well as the ability to work in a team;
- difficulties with free Internet access in some regions, which is necessary to use the convenient operation of applications on gadgets;
- capital financial costs for launching a high-quality mobile application;
- if you are unable to work with a technical device, there may be some difficulties in studying the material, as well as in mastering it;
- loss of concentration when reading voluminous text passages that are not available in a number of mobile applications.

But, despite these shortcomings, some of them can be completely or partially eliminated. So, for example, you can increase the ease of use by using step-by-step instructions.

Today, the number of mobile applications is about 1.5 billion units, which exceeds the number of desktop computers by almost three times. And one should not neglect such a factor as the relevance of the mobile application area. Because it is much more convenient to use mobile devices to access different types of information. Students often use smart devices, communicators and tablet computers not only for gaming, but also for educational purposes. In other words, working with a mobile device contributes to the formation of the participant's technical competence and weakens his opportunities for communicative competence. Machine-based and fast task verification provides students with a chance to receive the most up-to-date information about their progress [3, p. 580]. In addition, the mobile application program independently analyzes errors and, taking them into account, provides recommendations and exercises to eliminate them.

It is also worth emphasizing the special role of electronic education management technology. Full-time education using mobile applications closely borders on e-education. In this regard, it should be noted the company Knewton, which actively used data analysis technologies in the field of education. The ready-made platform makes it possible for any educational institution to introduce personalized learning – this is progress forward on the path of development in the field of educational technologies.

For example, a teacher remotely will be able to evaluate the knowledge of an individual student in his subject at a convenient time in a couple of mouse clicks. These technologies will allow teachers to significantly facilitate and accelerate the definition of difficulties, adjust topics, and partially change the learning process in order to eliminate knowledge gaps for an individual student. In this regard, the teacher will have a lot of free time to inspire students and teach.

In order to achieve the goals set for the student, Knewton's adaptive learning provides a high probability that the user will be provided with the right educational material. For example, if a student does not cope well with the selected set of questions, then this platform will be able to guess which topics, regarding this list of questions, turned out to be difficult, and offer him material to increase the level of understanding of precisely the problem topics.

The annual enrollment of students at the Arizona State University is 70,000, which is a high enrollment rate among educational institutions in the United States. Michael Crowe, being the president of the university, named his educational institution the "new American university", choosing a strategy for the active implementation of technology-innovative developments in the field of mobile and e-learning. In 2011, an experiment was launched to introduce adaptive learning, in which Knewton participated, as well as his partner, Pearson, which is a giant among paid educational services. Preliminary results of the experiment showed that the results improved by 18% [3, pp. 353, 355].

Summing up, we can say that "mobile" learning is such an educational activity, using not exclusively, but mainly portable devices such as phones, smartphones, tablet computers, sometimes laptops, etc., but not ordinary desktop stationary computers (IADIS International Conference Mobile Learning) [4].

The introduction of mobile applications into the learning process becomes available thanks to a large set of functions (voice communication, communication exchange, video and audio material exchange, etc.). With the help of such technological devices, students have the opportunity to solve a number of educational tasks [5]. – exchange of administrative and organizational information (class schedules, tuition fees, etc.);

- personalized media database of electronic educational resources, convenient use of educational content scientific and artistic literature, reference books, dictionaries, audiovisual information);
- formation of trainings using training programs, search systems and Internet resources, collective interaction of students and teachers, additional services (global positioning system , etc.);
- consulting and explanation;
- instant messaging, information transfer;
- webinars, social networks;
- testing and other types of performance monitoring.

This training format functions in the present time, providing relevant information materials. Mobile learning, on the one hand, is based on mutual cooperation, but on the other hand, it is so individual in creating learning communities.

Qualitative modernization and updating of current teaching methods are so necessary for the modern educational process of teaching students. And the use of mobile software is one of the most effective and affordable ways to increase motivation not only for teachers, but also for students. And in general, with the help of new technologies, they will make the process of education more attractive for the younger generation. It should also be noted that the relationship between student and teacher will still play a major role in the educational process, since it has already been noted that students are mainly familiar only with gaming computer and mobile applications and use their equipment for entertainment. But as mobile applications are introduced into the education system, there will also be shifts in perception, since this will not be something radically new and students will not perceive tasks on the screen of a gadget only as another colorful toy.

Thus, the proposed approach to the organization of student education using mobile devices expands the conditional framework by using new features of mobile platforms. It expands the learning environment and goes beyond it.

The experience gained in using educational technologies has shown their feasibility and effectiveness in modern educational practice. The use of such innovations in the education system contributes to the successful development of the studied material.

In conclusion, it can be argued that mobile learning will not replace traditional learning, but it can be used as an addition to the learning process in higher education and as a component of blended learning. The active use of mobile learning does not aim to replace computers with portable gadgets, but rather expands and complements the educational environment with interesting and relevant methods, which are increasingly preferable and accessible to students.

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